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## How to Build a Discipline-Specific Professional Library

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### Abstract

**Objective:** Based on the characteristics of the School of Computer Science and Technology at Huaibei Normal University, comprehensively collect books related to the majors of the School of Computer Science and Technology from the library holdings to establish a subject-specific library collection.

**Method:** Integrate the disciplinary classification system of the Chinese Library Classification (5th edition) with the professional training programs of the School of Computer Science and Technology to acquire all professional books in this discipline and selected books from related disciplines within the library collection, forming a complete subject-specific library.

**Significance:** Reduce readers' time spent locating books, promote the development of print literature resources, and provide support for disciplinary services and disciplinary construction.

### Full Text

## How to Build a Subject-Specific Library Collection: A Case Study of the Information Education Space at Huaibei Normal University Library

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### Abstract

This study aims to systematically collect all library materials related to the Computer Science and Technology College at Huaibei Normal University and establish a dedicated subject-specific library collection. The methodology integrates the disciplinary classification system of the Chinese Library Classification (5th Edition) with the college's professional training programs to acquire all

subject-specific books and selected materials from related disciplines, thereby forming a comprehensive subject collection. This initiative significantly reduces patrons' time spent locating materials, promotes the development of print resource collections, and provides robust support for subject services and disciplinary construction.

**Keywords:** subject-specific library collection, resource development, subject services

With the widespread application of advanced information technologies such as big data, the Internet of Things, and cloud computing, libraries have entered the era of third-generation smart libraries. Through hardware and software systems including self-service borrowing machines, 24-hour book lockers, guidance robots, inventory robots, smart management systems, and big data analytics platforms, libraries have essentially achieved intelligent services that greatly enhance service quality and efficiency. Concurrently, traditional manual circulation services are gradually being phased out, creating an urgent need for libraries to develop deep, personalized subject services to meet the teaching and research demands of their institutions. As stipulated in Article 30 of the *Regulations for Regular Higher Education Institution Libraries (2015 Edition)*: “Libraries should actively expand their information service domains, provide digital information services, embed themselves in teaching and research processes, deliver subject-based services, and explore new services according to needs.”

For university libraries without subject-specific branch libraries, most organize their collections according to the Chinese Library Classification system, arranging materials by broad categories such as arts, sciences, or general collections in an integrated storage-borrowing-reading service model. While this approach maximizes space utilization and facilitates patron access, it scatters books from a single discipline across multiple library sections. Consequently, libraries cannot accurately assess their print resource coverage for specific disciplines, nor can they establish a systematic print resource framework for disciplinary construction and deep subject services. For instance, when a college requires library support materials for professional accreditation, libraries without a physical subject-specific collection can only provide rough data from their management systems. For patrons, locating professional books often requires searching multiple sections, wasting valuable time and hindering academic discussion and exploration. Therefore, constructing subject-specific library collections is essential for libraries pursuing subject-based services.

## 1. Basic Situation

### Computer Science and Technology College

HuaiBei Normal University comprises two campuses—Xiangshan and Binhu—with 15 colleges and 83 undergraduate programs. The Computer Science and Technology College (hereinafter referred to as the Computer College) is located at the Binhu Campus and includes three departments: Computer Applications,

Network and Information Security, and Intelligent Science and Big Data Technology. The college offers seven undergraduate majors: Computer Science and Technology, Network Engineering, Information Management and Information Systems, Information Security, Digital Media Technology, Data Science and Big Data Technology, and Intelligent Science and Technology. Table 1 presents the core curriculum for five of these majors according to their 2021 training programs.

### **Subject Scope for the Subject-Specific Collection**

The term “discipline” here refers to the classification of first-level disciplines by the Ministry of Education, which divides all subjects into 89 subcategories. Since university departmental structures generally align with this system, using the CLC categories corresponding to these first-level disciplines provides a reasonable framework for locating professional books. However, with scientific development and the emergence of interdisciplinary and cross-disciplinary fields, we must also supplement the collection based on departmental program offerings. The Information Education Space systematically collects all professional books for the Computer College plus selected professional books from related disciplines to form a complete disciplinary collection system that provides print resource support for disciplinary construction and subject services.

## **2. Subject-Specific Library Collection Development**

### **Locating Professional Books Using the CLC**

Since the *Chinese Library Classification (5th Edition)* (hereinafter referred to as the CLC) is a classification system built upon scientific categorization, it comprises 22 major categories with four types of relationships among classes: hierarchical, coordinate, alternate, and associative. According to the Ministry of Education’s first-level discipline classification, the CLC category corresponding to computer science and technology is TP3, which we designate as the primary category for computer professional books. Categories bearing hierarchical and coordinate relationships with TP3 include:

- TP Automation Technology, Computer Technology
- TP1 Automation Basic Theory
- TP2 Automation Technology and Equipment
- TP3 Computing Technology, Computer Technology
- TP6 Fluidics (Fluid Control Technology)
- TP7 Remote Sensing Technology
- TP8 Telecontrol Technology

The CLC compilation principles state: “The classification system must conform to scientific principles, taking scientific classification as its foundation and adopting a logical system from general to specific. It must also consider the characteristics of library material classification, accommodating both ancient

and foreign materials while fully reflecting new disciplines and emerging subjects.” Therefore, we must also select professional book categories from TP1 and TP2 based on the Computer College’s core curriculum (Table 1), as these constitute the theoretical foundation of TP3 and even form its core content. Specific details are presented in Table 2 .

When annotations in TP3’s subcategories include phrases such as “XXXX should be classified under...” or “see also...”, these indicate cross-cutting or applied relationships between categories. Annotations with “preferably classified under...” denote alternate relationships. For example:

TP391 Information Processing (Information Processing)

General discussion of image processing should be classified under TN911.73. Development and research of information processing software should be classified under the relevant categories of TP317.

See also G202.

TN911.73 Image Signal Processing

TN876.3+1 Suppression Devices

General discussion should be classified here; computer image signal processing should also be classified here.

TN876.3+2 Counting Devices, Billing Devices

Specific discussion should be classified under relevant categories.

G202 Information Technology

General discussion should be classified here; specific discussion should be classified under relevant categories. See also TP391.

For books in categories such as TN911.73 and G202 that represent related or alternate relationships, we generally transfer only one copy each. Specific decisions must be based on the Computer College’s curriculum: if a category belongs to the professional curriculum, all copies should be transferred; if unrelated to the curriculum, no transfer is needed; if it is a subcategory listed in Table 2, it should not be included in Table 3 . For instance, category TP391.2 Translation Systems includes the annotation “machine translation and its theory should be classified under H085,” and category H085 Machine Translation happens to be a core course in the Computer College, so all copies under H085 are transferred. Conversely, category TP317.1 Office Automation Systems includes the annotation “see also C931.4,” but category C931.4 (Office Work) is unrelated to the professional curriculum, so it is not included in Table 3. Additionally, categories without holdings in our library are excluded from Table 3.

Since categories typically contain subcategories, exporting book data through the library management system using fuzzy matching on the MARC 690\$ field often retrieves numerous irrelevant books, including those from alternate categories. Therefore, careful pruning is required to remove irrelevant data, particularly subcategories. For categories in Table 3 where only one copy is transferred, this approach ensures that while building a complete disciplinary collection for

the Information Education Space, we avoid creating confusion with other disciplines' core collections, allowing other subject-specific libraries to also develop complete collection systems.

Given the complex hierarchical relationships among CLC categories, care must be taken to avoid expanding the search scope beyond necessary when retrieving data by category, ensuring only relevant books are selected.

### **Locating Professional Books Based on Curriculum**

While the above methods enable us to locate most professional books for the Computer College, the collection remains incomplete. As scientific and technological development increasingly integrates disciplines and generates new specialties, we must also use the Computer College's curriculum to identify additional professional books. The specific method involves: using course names from Table 1 to search the OPAC system for corresponding classification numbers, then verifying these numbers in the CLC to ensure the class names align with the course content. If they align and are not already listed in Tables 2 or 3, they are included in Table 4. Depending on the thematic concepts contained in course names, several scenarios typically emerge.

First, for course names representing a single thematic concept, a corresponding classification number can generally be found in the CLC. For example, the Data Structures course corresponds to classification number TP311.12, which is already included in Table 1 and therefore not added to Table 4. Similarly, the Computer Networks course corresponds to TN915 and TN919, and examination of the class names and subcategories in the CLC reveals they all focus on computer network communications, so all are selected. If no corresponding classification number can be found, the search must proceed by course name.

Second, for course names containing two or more concepts, the name must be decomposed into single concepts before searching, with qualifying terms included in Table 4. For example, the course Circuit and Analog Electronic Technology can be analyzed and split into three thematic concepts: analog electronic technology, circuit theory, and circuit analysis. For unfamiliar course names, we can also examine abstracts, notes, or subject information in search results to identify thematic concepts.

Third, searching directly by course name requires careful analysis of results to eliminate data not corresponding to the relevant discipline, as OPAC systems typically use fuzzy matching. Additionally, course names should be appropriately expanded to ensure comprehensive retrieval. For example, Computer English can be expanded to Computer English, Computer Professional English, and Computer-related English before searching.

Table 4 only includes records with retrieval results. In summary, when searching by course name, we must use the CLC and analyze course names to expand relevant concepts, improving recall and avoiding missed data, while simultaneously

analyzing results to eliminate non-qualifying entries.

### Data Processing and System Configuration

After the above processing, we obtain substantial book data containing considerable duplication due to the complex relationships among categories. Therefore, deduplication is necessary during transfer. Libraries with technical capabilities can develop programs to compare ISBNs and titles for deduplication. Without such capabilities, libraries can first transfer all books designated for complete transfer, then process those requiring only one copy each, using ISBN and title to check against already-transferred books and avoiding duplicate transfers. Though more labor-intensive, this method ensures consistent results.

Following the establishment of the computer science subject-specific collection in the Information Education Space, the library must configure collection allocation rules in the management system based on the identified categories. When adding categories, attention must be paid to their order: subcategories should precede parent categories; otherwise, the system cannot match subcategories for rule allocation. For data retrieved by course name, which cannot be configured through allocation rules, collaboration with the acquisitions and cataloging department is required to process transfers after each batch of books is cataloged.

## 3. Subject-Specific Library Collection Improvement

After operating for a period, we analyze borrowing patterns of Computer College patrons across all library sections to refine the Information Education Space collection. If the proportion of books borrowed by Computer College patrons from the Information Education Space increases significantly compared to their total library borrowing, this indicates a well-developed subject-specific collection. Otherwise, detailed analysis of their borrowing in other sections is needed to identify missing professional books, which can be supplemented to the Information Education Space after verification by Computer College faculty. Additionally, periodic interviews with Computer College faculty and students through subject services help us understand their information resource needs and continuously update the Information Education Space collection to ensure robust resource support and subject services.

The Information Education Space is specifically designed for Computer College faculty and students, systematically collecting computer science professional books that enable patrons to quickly locate needed materials. Because the collection is organized by discipline, the books themselves implicitly reflect the disciplinary structure, allowing patrons to gradually develop awareness of this system through regular use. When recommending books for specific courses, we can rapidly retrieve relevant holdings using the course name processing methods described above. Furthermore, the Information Education Space includes a discussion area equipped with smart screens, computers, printers, and furniture to facilitate academic exchange and discussion. Therefore, providing quality

subject services to Computer College faculty and students is the fundamental purpose of the Information Education Space, and only with their support and collaboration can this space remain vibrant and dynamic.

## References

[1] Chinese Library Classification (5th Edition)[M]. Edited by the National Library of China “Chinese Library Classification” Editorial Committee. Beijing: National Library Press, 2010.8

*Note: Figure translations are in progress. See original paper for figures.*

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